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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,107	06/08/2005	Changlong Ning	NL 021254	1511
24737 7590 08/24/2007 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			EXAMINER A, MINH D	
			ART UNIT 2821	PAPER NUMBER
			MAIL DATE 08/24/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

TH

Office Action Summary	Application No.	Applicant(s)	
	10/538,107	NING, CHANGLONG	
	Examiner	Art Unit	
	Minh D. A	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/28/07, 6/8/07</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. This is a response to the Applicants' filing on 6/08/2005. In virtue of this filing, claims 1-10 are currently presented in the instant application.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 6/8/05 and 6/28/07 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification Objection

4. The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Specification Unaccepted

6. The specification submitted on 6/8/05 is unacceptable.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) **TITLE OF THE INVENTION.**
- (b) **CROSS-REFERENCE TO RELATED APPLICATIONS.**
- (c) **STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.**
- (d) **THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.**
- (e) **INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.**
- (f) **BACKGROUND OF THE INVENTION.**
 - (1) **Field of the Invention.**
 - (2) **Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.**
- (g) **BRIEF SUMMARY OF THE INVENTION.**
- (h) **BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).**
- (i) **DETAILED DESCRIPTION OF THE INVENTION.**
- (j) **CLAIM OR CLAIMS** (commencing on a separate sheet).
- (k) **ABSTRACT OF THE DISCLOSURE** (commencing on a separate sheet).
- (l) **SEQUENCE LISTING** (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Drawings Unaccepted

7. The drawings submitted on 6/8/05 is unacceptable.

New corrected drawing in compliance with 37 CFR 1.121(d) is required in this application because the left corner, right corner and middle of abstract should not have (WO 2004/055858, PCT/IB2003/005224 and figure. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-5, and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Work et al (U.S. Patent No. 6,111,359) in view of Takeuti, Nobuyosi et al (EP 0917180 A1).

Regarding claim 1, Work discloses in figure 2, a ceramic metal halide discharge lamp comprising a lamp vessel (3) made of a transparent ceramic material, enclosing a discharge space (11) comprising an ionizable discharge medium and at least two electrodes (4,5), each provided with an electrode tip (4b, 5b), which tips are spaced apart at a mutual distance d (EA), and electrical feed-through elements (40, 41, 50, 51)

which extend from the electrodes (4,5) to the exterior, characterized in that the distance d(EA) between the electrode tips (4b,5b) is less than 1.0 mm (col.9, lines 15-29).

Work does not disclose that, the mercury density in the vessel (2) is higher than 0.3 mg/mm^3 .

Takeutu, Nobuyosi discloses the mercury density in the vessel (2) is higher than 0.3 mg/mm^3 . See abstract.

It would have thus been obvious to one having ordinary skill in the art to include the above the mercury density in the vessel (2) is higher than 0.3 mg/mm^3 disclosed in Takeutu, Nobuyosi in the discharge device of Work to achieve the claimed invention. As disclosed in reference of Takeutu, Nobuyosi, the motivation for the combination would be improved the lamp life and efficacy.

Regarding claim 2, Work discloses, characterized in that the distance between the electrode tips (4a, 5a) a bout .5mm corresponding to a ranges from 0.3 to 0.8mm. Col.9, lines 26-29.

Regarding claim 3, Work discloses, characterized in that the distance between the electrode tips (4a, 5a) ranges from 0.3 to 0.6 mm. Col.9, lines 26-29.

Regarding claim 4, Work further discloses, characterized in that the mercury density in the vessel (2) ranges from 0.3 to 0.8 mg/mm^3 . Col.9, lines 26-29.

Regarding claim 5, Work does not teach that, the mercury density in the vessel (2) ranges from 0.4 to 0.7 mg/mm^3 .

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the mercury density in the vessel (2) ranges from 0.4 to

0.7 mg/mm³, since, the different 0.4 to 0.7 mg/mm³ may be used to discharge the lamp or it will be understood by those skilled in the art that the range of mg/mm³ is approximately 0.4 to 0.7 mg/mm³ may be used as the basis of the design. For example, a variable mg/mm³ and capable of power electricity may be selected. A known approximately 0.4 to 0.7 mg/mm³ on the basis of its suitability for the intended use as matter of obvious to a person skilled in the art.

Regarding claim 8, Work and Honda do not teach, characterized in that the wall load on the inside of the vessel (2) during operation ranges from 40 to 150 W/cm².

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the wall load on the inside of the vessel during ranges from 40 to 150 w/cm² since, the different 40 to 150 w/cm² may be used to discharge the lamp or it will be understood by those skilled in the art that the watt/cm² is approximately 40 to 150W/cm² may be used as the basis of the design. For example, a variable Watt/cm² or change a different the Watt/cm² and capable of power electricity may be selected. A known approximately Watt/cm² on the basis of its suitability for the intended use as matter of obvious to a person skilled in the art.

Regarding claim 9, Work further does not teach that, a ceramic material is chosen from the group consisting of sub-micro polycrystalline aluminum (PCA), yttrium aluminum garnet (YAG), Y2O3, MgAl2O4, and aluminum nitride (AlN).

The group consisting of sub-micro polycrystalline aluminum (PCA), yttrium aluminum garnet (YAG), Y2O3, MgAl2O4, and aluminum nitride (AlN) are known material that, are commonly used in the art for electrodes or vessel. It would have been obvious

to one of ordinary skill in the art to utilize the group consisting of sub-micro polycrystalline aluminum (PCA), yttrium aluminum garnet (YAG), Y2O3, MgAl2O4, and aluminum nitride, AlN, since it is known and well suited for the intended use. The selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945).

Regarding claim 10, Work discloses, in figures 1-2, a main body and at least a lamp

10. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Work et al (U.S. Patent No. 6,111,359) in view of Honda et al (U.S. Patent No. 6,307,321).

Regarding claim 6, Work discloses all of claimed subject matters, as expressly recited in claim 1, except, characterized in that the lamp vessel comprises a bulging section (8) communicating with at least two feed-through channels having an inner diameter smaller than the bulging section.

Honda discloses, characterized in that the lamp vessel comprises a bulging section (8) communicating with at least two feed-through channels having an inner diameter smaller than the bulging section. See figure 2, col.8, lines 21-37.

It would have thus been obvious to one having ordinary skill in the art to include the above characterized in that the lamp vessel comprises a bulging section (8) communicating with at least two feed-through channels having an inner diameter smaller than the bulging section disclosed in lamp system of Honda in the gas

discharge lamp of Work to achieve the claimed invention. As disclosed in the lamp system of Honda, the motivation for the combination would be improved a long life of lamp and a high efficiency.

Regarding claim 7, Work discloses all of claimed subject matters, as expressly recited in claim 1, except, characterized in that the bulging section (8) is substantially cylindrical over the distance d and has an internal cross-sectional diameter D_i ranging from 1.5 to 4.5 mm and a length L ranging from 4 to 8 mm.

Honda discloses characterized in that the bulging section (8) is substantially cylindrical over the distance d and has an internal cross-sectional diameter D_i ranging from 1.5 to 4.5 mm and a length L ranging from 4 to 8 mm as shown in figure 2.

Therefore, it would have thus been obvious to one having ordinary skill in the art to include the above characterized in that the bulging section (8) is substantially cylindrical over the distance d and has an internal cross-sectional diameter D_i ranging from 1.5 to 4.5 mm and a length L ranging from 4 to 8 mm disclosed in lamp system of Honda in the gas discharge lamp of Work to achieve the claimed invention. As disclosed in the lamp system of Honda, the motivation for the combination would be improved a long life of lamp and a high efficiency.

Citation of relevant prior art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art Ono et al (U.S. Patent No. 6,545,430) discloses a high pressure discharge lamp.

Prior art Ikeuchi et al (U.S. Patent No. 5,905, 341) discloses a high pressure mercury ultraviolet lamp.

Prior art Van Vilet et al. (U.S. Patent No. 5,973,453) discloses a ceramic metal halide discharge lamp.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Dieu A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 AM-2: 45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Owens Douglas W can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Examiner

Minh A

Art Unit 2821

8/19/07

shih-chao chen
SHIH-CHAO CHEN
PRIMARY EXAMINER

2007/08/19